

92 1 4. (amended) Semiconductor laser chip according to Claim 3, in which the beam
2 shaper has at least one material combination selected from the group consisting of indium
3 gallium aluminium antimonide, gallium aluminium arsenide antimonide, and indium
4 aluminium arsenide antimonide.

1 5. (amended) Semiconductor laser chip according to Claim 1, in which a trench is
2 introduced between the semiconductor laser element and the beam shaper.

1 7. (amended) Semiconductor laser chip according to Claim 1, in which the
2 semiconductor laser element is configured as a DFB semiconductor laser element.

1 8. (amended) Semiconductor laser chip according to Claim 1, in which the
2 semiconductor laser element is configured as an FP semiconductor laser element.

3 9. (amended) Method for fabricating a semiconductor laser chip, in which a
2 semiconductor laser element is formed; comprising formation of a beam shaper in the exit
3 direction of a laser beam emitted by the semiconductor laser element, in such a manner that
4 the emitted laser beam is guided through the beam shaper, in which case, in order to form the
5 beam shaper, a beam shaper region is formed in the exit direction of a laser beam emitted by
6 the semiconductor laser element, the beam shaper region containing aluminium, a desired
7 aluminium concentration profile is formed in the beam shaper region, a selective oxidation of
8 the beam shaper region is carried out, such that the beam shaper is formed depending on the
9 aluminium concentration profile.

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1 10. (amended) Method according to Claim 9, further comprising at least one
2 material combination of at least one of material system selected from the group consisting of
3 indium gallium aluminium antimonide, gallium aluminium arsenide antimonide, and indium
4 aluminium arsenide antimonide.

1 11. Method according to Claim 9 in which a trench is introduced between the
2 semiconductor laser element and the beam shaper region or the beam shaper.



In the Claims

1 1. (amended) Semiconductor laser chip having [•] a semiconductor laser element
2 and [•] a beam shaper integrated into the semiconductor laser chip and serving to shape a
3 laser beam emitted by the semiconductor laser element, [•] the beam shaper being arranged
4 in a manner integrated in the semiconductor laser element in the exit direction of a laser beam
5 emitted by the semiconductor laser element, such that the emitted laser beam is guided
6 through the beam shaper, the beam shaper having a predetermined concentration profile of
7 oxidized aluminium.

1 3. (amended) Semiconductor laser chip according to Claim 1 [or 2], in which the
2 beam shaper has aluminium-containing material.

1 4. (amended) Semiconductor laser chip according to Claim 3, in which the beam
2 shaper has at least one material combination [of at least one of the following material
3 systems:] selected from the group consisting of [•] indium gallium aluminium antimonide,
4 [•] gallium aluminium arsenide antimonide, [or] and [•] indium aluminium arsenide
5 antimonide.

1 5. (amended) Semiconductor laser chip according to [one of] Claim[s] 1 [to 4], in
2 which a trench is introduced between the semiconductor laser element and the beam shaper.

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2 7. (amended) Semiconductor laser chip according to [one of] Claim[s] 1 [to 6],
3 in which the semiconductor laser element is configured as a DFB semiconductor laser
4 element.

1 8. (amended) Semiconductor laser chip according to [one of] Claim[s] 1 [to 6], in
2 which the semiconductor laser element is configured as an FP semiconductor laser element.

1 9. (amended) Method for fabricating a semiconductor laser chip, in which a
2 semiconductor laser element is formed; comprising [• in which] formation of a beam shaper [is
3 formed] in the exit direction of a laser beam emitted by the semiconductor laser element, in such
4 a manner that the emitted laser beam is guided through the beam shaper, [•] in which case, in
5 order to form the beam shaper, [•] a beam shaper region is formed in the exit direction of a laser
6 beam emitted by the semiconductor laser element, the beam shaper region containing aluminium,
7 [•] a desired aluminium concentration profile is formed in the beam shaper region, [•] a selective
8 oxidation of the beam shaper region is carried out, such that the beam shaper is formed
9 depending on the aluminium concentration profile.

1 10. (amended) Method according to Claim 9, further comprising at least one material
2 combination of at least one of [following] material system [is used for the beam shaper region:]
3 selected from the group consisting of [•] indium gallium aluminium antimonide, [•] gallium
4 aluminium arsenide antimonide, [or] and [•] indium aluminium arsenide antimonide.

1 11. Method according to Claim 9 [or 10,]in which a trench is introduced between the
2 semiconductor laser element and the beam shaper region or the beam shaper.